

Pending Claims

1. (Withdrawn)
2. (Withdrawn)
3. (Withdrawn)
4. (Withdrawn)
5. (Withdrawn)
6. (Withdrawn)
7. (Withdrawn)
8. (Withdrawn)
9. (Withdrawn)
10. (Original) A method for correcting for higher order aberrations of a patient's eye, comprising:
 - inflicting a required surgical trauma to the eye corresponding to a particular ophthalmological procedure;
 - obtaining diagnostic wavefront information subsequent to inflicting the trauma;
 - developing a treatment for correcting the higher order aberrations of the patient's eye based at least in part upon the subsequent wavefront information.
11. (Original) The method of claim 10, wherein the surgical trauma includes at least one of a lamellar corneal cut, a keratectomy, a keratotomy, a corneal abrasion, a corneal puncture, a corneal incision.
12. (Original) The method of claim 11, wherein said trauma is a keratome cut to create a LASIK flap and further wherein said diagnostic wavefront information is obtained prior to lifting said flap.
13. (Original) The method of claim 10, wherein developing the treatment comprises

considering a biodynamical effect in response to the trauma, further wherein said subsequent wavefront information includes indicia of said biodynamical effect.

14. (Withdrawn)

15. (Original) The method of claim 10, further comprising obtaining a diagnostic measurement of the patient's eye prior to inflicting the surgical trauma.

16. (Original) The method of claim 15, further comprising using said prior diagnostic information and said subsequent wavefront information to develop said treatment.

17. (Original) The method of claim 13, wherein developing the treatment includes determining an ablation profile that is adjusted with respect to a prospective ablation profile associated with correcting the higher order aberrations in the absence of considering the biodynamical effect in response to the trauma.

18. (Original) The method of claim 17, wherein said adjustment is an empirical based adjustment.

19. (Original) The method of claim 10, wherein said subsequent wavefront information is obtained at a time after the infliction of the surgical trauma ranging from substantially immediately to an empirically or diagnostically determined time in consideration of a biodynamic effect of the eye in response to the surgical trauma.

20. (Original) The method of claim 19, wherein said determined time is within one month of said trauma infliction.

21. (Original) The method of claim 10, wherein said obtained wavefront information is at least one of a direct wavefront measurement or derived from a non-direct wavefront measurement.

22. (Original) The method of claim 10, further comprising:

considering a prospective biomechanical effect of the eye with respect to the developed treatment; and

adjusting said developed treatment, at least in part, as a function of the prospective biomechanical effect of the eye.

23. (Original) The method of claim 10, further comprising obtaining a different diagnostic measurement indicative of a characteristic of the epithelium of the eye, and using information from this measurement to adjust the developed treatment to compensate for a biomechanical effect of the eye.

24. (Original) The method of claim 23, wherein said epithelium characteristic includes at least one of an epithelial profile and epithelial thickness.

25. (Original) The method of claim 10, further comprising treating the eye.

26. (Original) The method of claim 25, wherein after said treatment, the sum total of rotationally symmetric aberrations is equal to or greater than a sum total of rotationally asymmetric aberrations.

27. (Original) The method of claim 10, wherein said diagnostic wavefront information is obtained by a measurement made through a line of sight of the patient's eye.

28. (Original) The method of claim 25, comprising performing a photoablative treatment with a laser beam having a diameter, d , at a target location between $0.5\text{mm} \leq d \leq 7\text{mm}$.

29. (Original) The method of claim 25, wherein said treatment includes at least one of photo-ablation and a corneal inlay.

30. (Original) The method of claim 29, comprising performing a photoablative treatment with a laser beam having a diameter, d , at a target location between $0.5\text{mm} \leq d \leq 7\text{mm}$.

31. (Withdrawn)

32. (Withdrawn)

33. (Withdrawn)

34. (Withdrawn)

35. (Withdrawn)

- 36. (Withdrawn)
- 37. (Withdrawn)
- 38. (Withdrawn)